



Amesbury Elementary School

Finance Committee Meeting

November 27, 2018



 **DINISCO DESIGN**
architects + planners




Agenda

- Project approvals to date
- FAQ's
- Traffic
- Design update
- Project costs
- MSBA timeline
- Construction timeline



School Committee Approvals

- Approval of Educational Program June 18, 2018
- Approval of grade configuration (Grades PK-2) August 16, 2018
- Approval of use of CES site for new school November 6, 2018

		PK	K	1	2	3	4	5	6	7	8
	Amesbury ES	●	●	●	●						
	Cashman ES					●	●	●			
	Amesbury MS (678)								●	●	●

MSBA Enrollment Approval | October 31, 2018

- MSBA original K-5 total enrollment: 850
- MSBA new K-5 total enrollment: 875
 - District-wide K-2 enrollment: 425 students
 - District-wide 3-5 enrollment: 450 students



Massachusetts School Building Authority

Funding Affordable, Sustainable and Efficient Schools for Local Communities

AES School Building Committee Approvals

- MSBA Program Design Program Approval October 25, 2018
- Site Selection Approval (CES Site) October 25, 2018



SBC Approved CES Site Option | October 25, 2018



FAQ

Category

Site Constraints

AES Site

Site Constraints

- Wetlands (Variance required)
 - ★ Variance may allow for additional on-site parking
- Existing Building
- Zoning (Variances required)
- ★ 80% open space requirement achieved

Cashman Site

Site Constraints

- Wetlands (Variance required)
- Existing Building
- ★ Zoning (Variances may be required)
- ★ 80% open space requirement achieved

FAQ

Category

Site Layout

AES Site

Building Layout

- 3-story building in close proximity to street

Parking

- ★ Limited due to site constraints; some parking in the neighborhood will be required (Possibility of leasing/purchasing private parking lot across the street)

Event Parking

- ★ 37 on-site parking spaces (incl. parallel parking available after drop-off and pick-up)

Future Expansion

- ★ Not possible on AES site

Existing Building on AES

- Would be demolished

Cashman Site

Building Layout

- 3-story building (2 story front facade)

Parking

- Improved and expands existing parking

Event Parking

- ★ Est. 250 on-site parking spaces (incl. parallel parking available after drop-off and pick-up)

Future Expansion

- AES could be swing space to replace existing CES

Existing Building on AES

- Available for other municipal use

FAQ

Category

During Construction

Distance Between Schools

AES Site

Timeline

- ★ 40 month construction duration:
 - Extended due to phased construction
 - Extended due to “urban-like” conditions
 - Extended due to demo of exist building

Disruptions

- ★ Building construction 10’ from occupied school
- ★ Minimal on-site contractor lay-down area
 - Limited on-site parking
 - Compromised drop-off/pick-up
- ★ Reduced green space/play area

Start Times

- Staggered, 30 minutes

Student Interaction

- Minimal opportunity for vertical integration

Cashman Site

Timeline

- ★ 24 month construction duration:
 - Early site package to accelerate construction

Disruptions

- ★ Building construction 130’ from occupied school
- ★ Room for on-site contractor lay-down area within contractor area
 - Minimal site circulation disruptions
- ★ Reduced green space/play area

Start Times

- Concurrent

Student Interaction

- Opportunities for vertical integration

FAQ

Category

Neighborhood Impacts

AES Site

Traffic

- Minimal neighborhood increase
- Substantial increased cross-town traffic

Drop-Off/Pick-up

- Neutral

Building Profile

- Large mass
- 50' min. height with minimal setback from street

Construction Disruptions

- ★ Significant (cars and trucks parked on roads)
- Proximity to neighbors
- Increased construction traffic

Bus vs. Walk Population

- Currently ≤ 25 students walk to this school

Cashman Site

Traffic

- Increased neighborhood traffic
- Increased cross-town traffic

Drop-Off/Pick-up

- Improved

Building Profile

- No impact

Construction Disruptions

- ★ Minimal neighborhood disruption (cars and trucks parked on-site)
- Separate construction access

Bus vs. Walk Population

- Currently ≤ 25 students walk to this school

FAQ

Category

Recreation

AES Site

Fields

- Possibility to retain existing baseball field

Playgrounds

- Existing playgrounds will be demolished; build new playground on site

Proximity to Recreational Opportunities

- Existing educational trails remain

Cashman Site

Fields

- Two baseball fields will be eliminated; replicated at Woodsom Farm

Playgrounds

- One existing playground remains, one playground demolished; build new playground on site

Proximity to Recreational Opportunities

- ★ Existing educational trails remain

FAQ

Category

Costs

AES Site

Transportation

- ★ No change in operational costs

Operational

- ★ Neutral (same regardless of site)

Construction—Building

- Increase for de-watering
- Increase for existing building demolition
- Increase for extended timeline
- Increase for urban-like construction

Construction—Site

- Retaining walls

Staff

- ★ Neutral (same number of staff regardless of site)

Cashman Site

Transportation

- ★ Savings in operational costs
(Reduced number of buses)

Operational

- ★ Neutral (same regardless of site)

Construction—Building

- Standard construction methods

Construction—Site

- Increase for baseball field relocation
- Increase for extended roadway
- Potential retaining walls

Staff

- ★ Neutral (same number of staff regardless of site)

FAQ

Category

Costs

AES Site

Bottom line costs

- ★ \$59.4 - \$67.8 Million Project cost

Bonds

- ★ 20 year Bond
 - 4.5% interest
 - \$470 - \$535 annual household cost
 - Average \$57.7 Million total Bond Cost
- ★ 30 year Bond
 - 5.25% interest
 - \$410 - \$460 annual household cost
 - Average \$75.3 Million total Bond Cost

Cashman Site

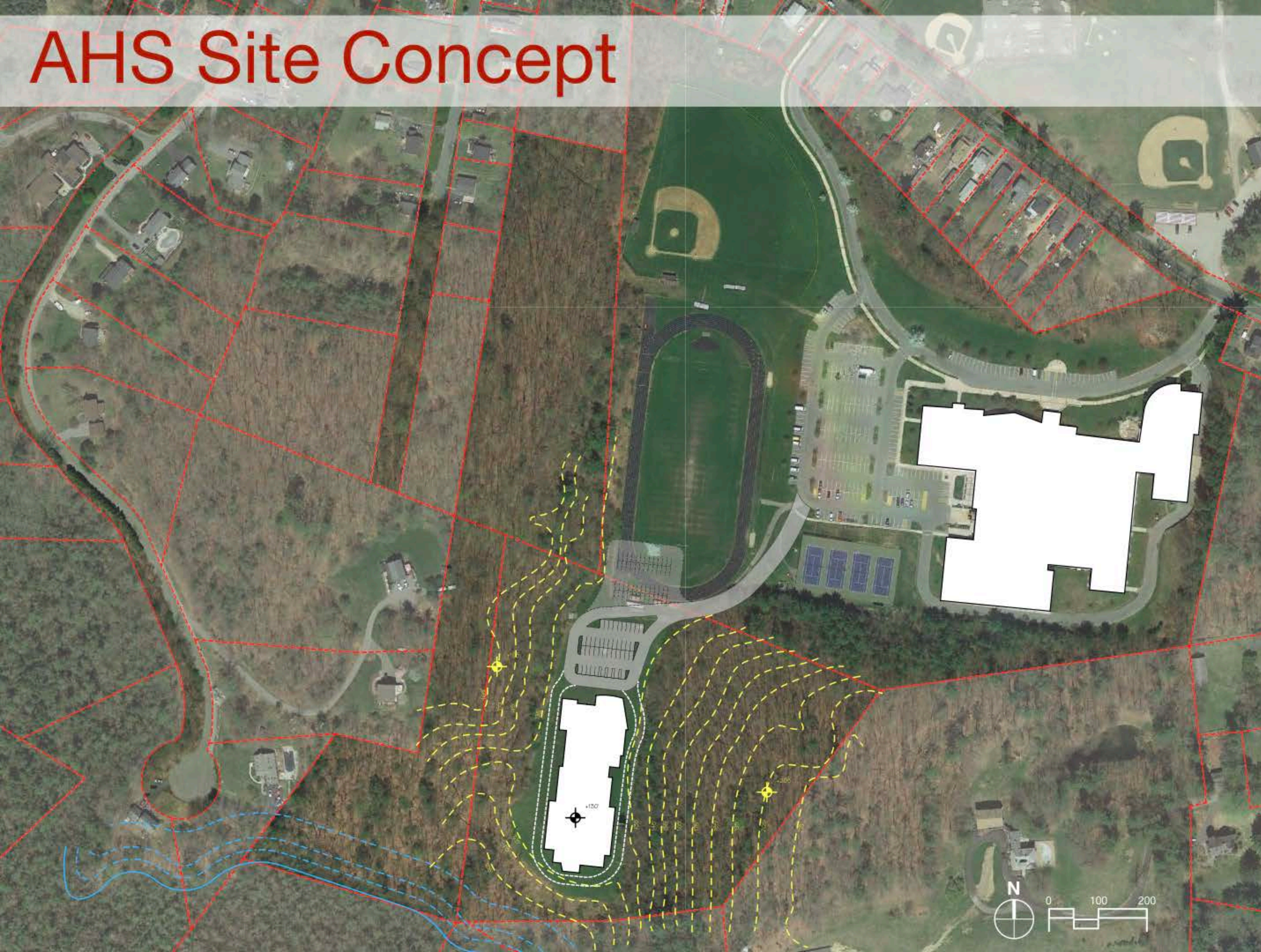
Bottom line costs

- \$59.2 - \$64.2 Million Project cost

Bonds

- ★ 20 year Bond
 - 4.5% interest
 - \$450 - \$490 annual household cost
 - Average \$57.7 Million total Bond Cost
- ★ 30 year Bond
 - 5.25% interest
 - \$390 - \$430 annual household cost
 - Average \$75.3 Million total Bond Cost

AHS Site Concept



Pros

- Existing school site

Cons

- Loss of practice fields
- Required parking & building access disturbs other fields
- Additional neighborhood traffic @ drop-off & pick-up

Cross Town Traffic Analysis



Traffic Analysis

Table 6: LOS Criteria for Unsignalized Intersections and Roundabouts

Level-of-Service by Volume-to-Capacity		Control Delay
$v/c \leq 1.0$	$v/c > 1.0$	(Seconds Per Vehicle)
A	F	0-10
B	F	> 10-15
C	F	> 15-25
D	F	> 25-35
E	F	> 35-50
F	F	> 50

Table 7: LOS Criteria for Signalized Intersections

Level of Service	Control Delay (Seconds Per Vehicle)
A	0-10
B	> 10-20
C	> 20-35
D	> 35-55
E	> 55-80
F	> 80

Traffic Analysis

Table 8: Roundabout and Unsignalized Intersection Capacity Analysis Results

Table 8: Roundabout and Unsignalized Intersection Capacity Analysis Results										CES Site				AES Site				
Intersection	Movement		2018 Existing				2025 No-Build				2025 Alternative-1				2025 Alternative-2			
			LOS	Delay	v/c	Queue Length	LOS	Delay	v/c	Queue Length	LOS	Delay	v/c	Queue Length	LOS	Delay	v/c	Queue Length
#1 Market Street, Elm Street, Main Street, & High Street	AM Peak Hour																	
	NB	L,T,R	C	18.0	0.76	197	C	23.0	0.84	263	D	28.0	0.88	311	E	43.0	0.98	450
	SB	L,T,R	A	7.0	0.36	42	A	8.0	0.39	48	A	10.0	0.50	72	A	10.0	0.51	75
	EB	L,T,R	A	8.0	0.26	26	A	8.0	0.29	30	B	10.0	0.33	37	A	10.0	0.33	36
	WB	L,T,R	A	6.0	0.26	26	A	7.0	0.28	29	A	7.0	0.34	38	A	8.0	0.34	38
	PM School Peak Hour																	
	NB	L,T,R	B	11.0	0.60	106	B	13.0	0.65	130	C	17.0	0.76	197	C	17.0	0.76	196
	SB	L,T,R	B	10.0	0.46	63	B	12.0	0.51	76	B	14.0	0.58	98	C	20.0	0.71	153
	EB	L,T,R	A	9.0	0.30	32	A	10.0	0.34	38	B	11.0	0.37	42	B	12.0	0.39	46
WB	L,T,R	B	14.0	0.67	138	C	17.0	0.74	177	C	23.0	0.82	233	E	36.0	0.92	339	
#2 Friend Street, School Street, & Allens Court	AM Peak Hour																	
	NB	L,T,R	A	4.0	0.13	11	A	4.0	0.14	12	A	4.0	0.15	13	A	4.0	0.14	12
	SB	L,T,R	A	6.0	0.08	7	A	7.0	0.09	8	A	8.0	0.11	10	A	8.0	0.11	9
	EB	L,T,R	A	8.0	0.37	45	A	9.0	0.41	52	B	10.0	0.49	72	B	12.0	0.54	84
	WB	L,T,R	A	8.0	0.48	67	A	9.0	0.52	78	B	12.0	0.64	124	B	11.0	0.63	117
	PM School Peak Hour																	
	NB	L,T,R	A	4.0	0.18	17	A	5.0	0.19	18	A	5.0	0.20	19	A	5.0	0.19	18
	SB	L,T,R	A	7.0	0.10	9	A	8.0	0.12	10	A	8.0	0.13	11	A	9.0	0.13	12
	EB	L,T,R	A	8.0	0.37	43	A	9.0	0.41	51	B	13.0	0.58	96	B	12.0	0.52	78
WB	L,T,R	B	10.0	0.58	100	B	11.0	0.63	120	B	13.0	0.69	150	B	15.0	0.73	175	
#3 Friend Street, Lions Mouth Road, & Highland Street	AM Peak Hour																	
	NB	L	B	12.5	0.20	1	B	13.0	0.22	1	C	22.9	0.48	3	C	16.2	0.29	2
		R	A	9.2	0.06	1	A	9.3	0.06	1	A	9.8	0.07	1	A	9.9	0.07	1
	EB	T,R	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-
	WB	L	B	12.8	0.27	2	B	13.4	0.30	2	C	15.3	0.35	2	B	13.4	0.30	2
		T	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-
	PM School Peak Hour																	
	NB	L	C	15.8	0.45	3	C	17.3	0.50	3	E	40.7	0.81	8	C	23.1	0.60	4
		R	B	10.2	0.21	1	B	10.4	0.23	1	B	12.2	0.29	2	B	11.3	0.26	2
	EB	T,R	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-
	WB	L	B	13.3	0.15	1	B	14.0	0.17	1	C	20.5	20.5	2	C	15.9	0.32	2
	T	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-	A	0.0	-	-	

Traffic Analysis

Table 9: Signalized Intersection Capacity Analysis Results

Table 9: Signalized Intersection Capacity Analysis Results					CES Site						AES Site			
Intersection	Movement		2018 Existing			2025 No-Build			2025 Alternative-1			2025 Alternative-2		
			LOS	Delay	Queue Length	LOS	Delay	Queue Length	LOS	Delay	Queue Length	LOS	Delay	Queue Length
#4 Main Street, School Street, & Sparhawk Street	AM Peak Hour													
	NB	L,T	C	29.5	106	C	30.7	51	C	32.3	123	C	32.9	119
		R	A	8.3	50	A	8.3	51	A	8.4	52	A	8.6	55
	SB	L	B	16.0	84	B	16.6	88	B	16.5	109	B	16.8	127
		T,R	B	17.7	227	B	19.4	245	B	18.0	256	B	18.7	285
	EB	L,T,R	C	26.4	#239	C	26.7	#287	C	29.2	#309	C	32.1	#367
	WB	L,T,R	B	17.9	27	B	18.1	30	B	18.4	31	B	19.5	31
	Intersection		B	19.9		C	20.7		C	21.0		C	22.0	
	PM Peak Hour													
	NB	L,T	D	38.6	169	D	39.3	181	D	40.8	191	D	40.7	188
		R	A	7.4	41	A	7.2	42	A	7.3	43	A	7.3	43
	SB	L	B	19.7	102	B	19.8	109	C	21.1	143	C	21.0	142
		T,R	C	20.7	240	C	21.1	260	C	21.1	287	C	21.2	289
	EB	L,T,R	D	40.1	#329	D	44.6	#375	D	48.4	#402	D	54.1	#444
	WB	L,T,R	C	25.2	24	C	26.3	26	C	28.2	27	C	28.1	27
	Intersection		C	26.2		C	27.5		C	28.4		C	29.9	

CES Site | Concept 3 - Preferred Traffic Plan A



Pros

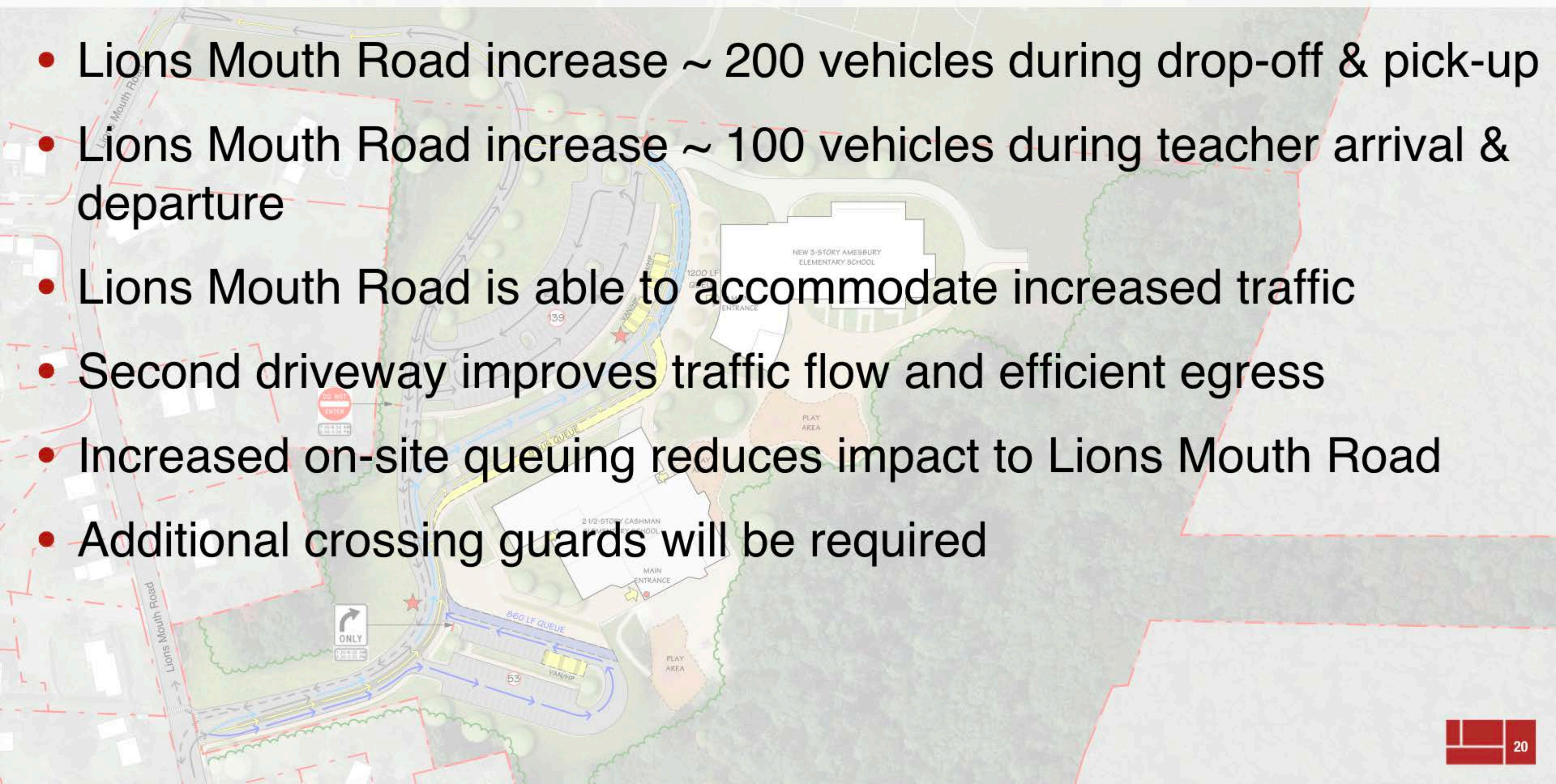
- Approved by APD & AFD with second driveway
- Separate queues for CES and AES
- 1200 LF of queueing for AES (60 Cars)
- 860 LF of queueing for CES (43 Cars)
- Consolidated busing
- One way traffic during drop-off and pick-up
- Additional driveway reduces vehicular conflicts

Cons

- Additional neighborhood traffic @ drop-off & pick-up

CES Site | Traffic Plan A Impacts

- Lions Mouth Road increase ~ 200 vehicles during drop-off & pick-up
- Lions Mouth Road increase ~ 100 vehicles during teacher arrival & departure
- Lions Mouth Road is able to accommodate increased traffic
- Second driveway improves traffic flow and efficient egress
- Increased on-site queuing reduces impact to Lions Mouth Road
- Additional crossing guards will be required



Site Plan | New Construction



Site Plan | New Construction

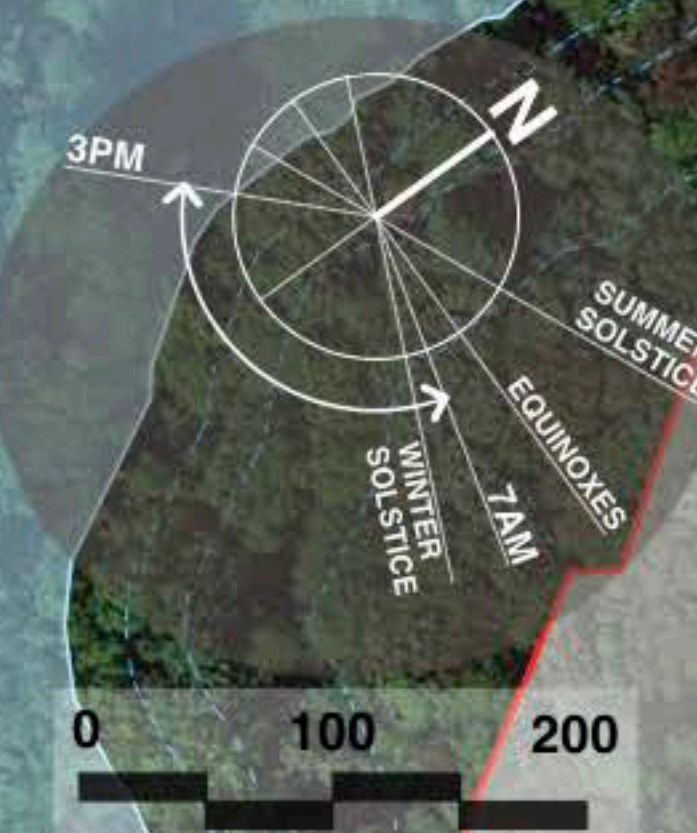
425 students (+ PK)
~100,000 SF

Pros

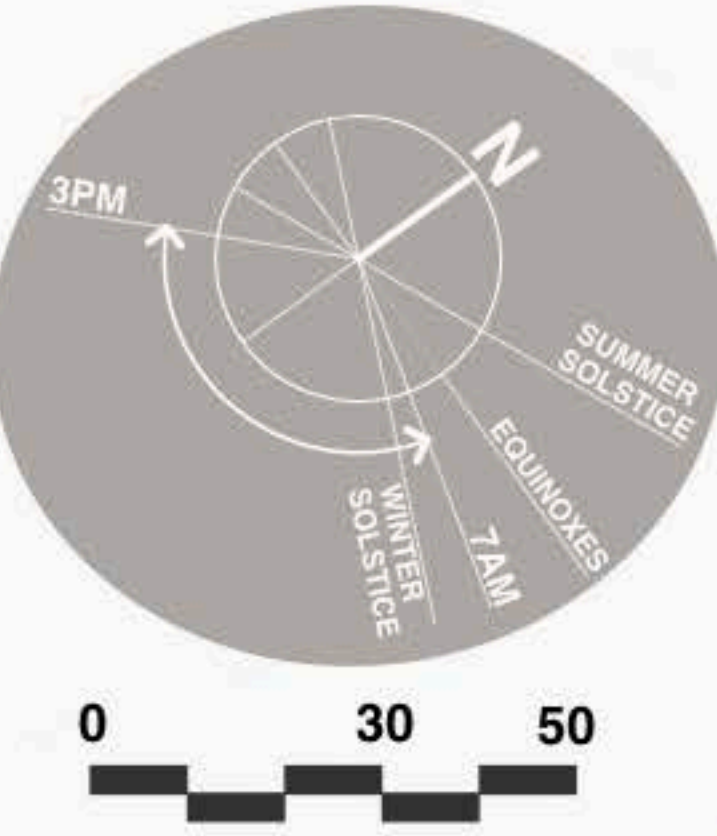
- New building
- Campus creation
- Consolidated busing
- Improved on-site traffic
- Amesbury school site available for other use

Cons

- Construction on occupied site
- Wetlands
- Neighborhood traffic congestion
- Replication of city fields
- Reduced green space



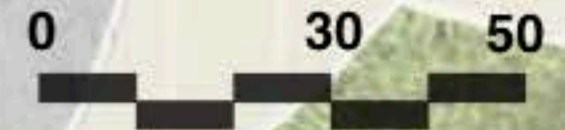
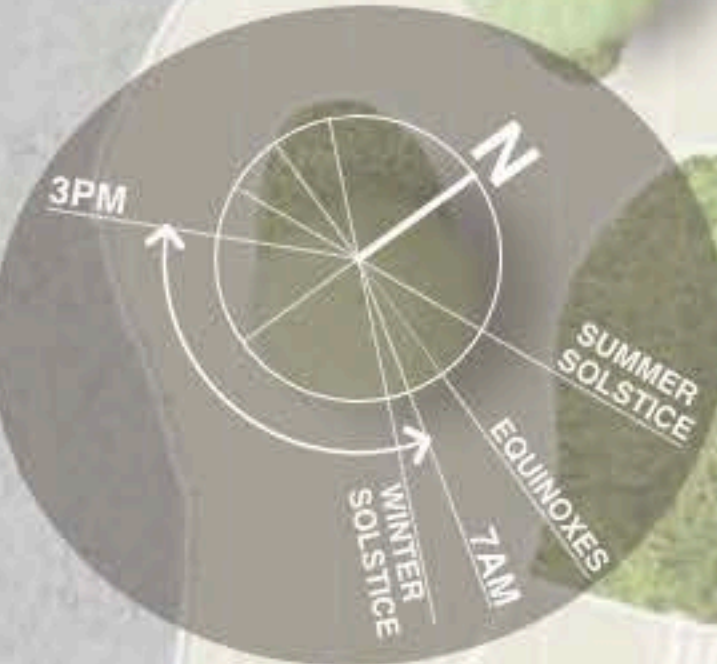
Floor Plans | Ground Floor



Floor Plans | First Floor



Floor Plans | Second Floor



3D | New Building



Project Costs

OPTION 5 All PK-2	# of Students	Program Area ⁽¹⁾	Gross Square Footage	Estimated Construction Cost	Site Premiums	Project Cost	City Share	Other Site Considerations	Construction Duration
AES Site Reno/Add	425 Students Plus PK students	67,000 NFA	100,000 GSF	\$44,480,000 D-B-B	\$ 3,012,888	\$59,366,110	\$36,824,821	\$ 1,500,000	40 months
				\$48,300,000 CM	\$ 3,012,888	\$64,141,110	\$39,689,821	\$ 1,500,000	40 months
AES Site Phased New	425 Students Plus PK students	67,000 NFA	100,000 GSF	\$47,000,000 D-B-B	\$ 3,264,000	\$62,830,000	\$39,003,600	\$ 1,500,000	40 months
				\$51,000,000 CM	\$ 3,264,000	\$67,830,000	\$42,003,600	\$ 1,500,000	40 months
CES Site New	425 Students Plus PK students	67,000 NFA	100,000 GSF	\$47,000,000 D-B-B	\$ 320,000	\$59,150,000	\$35,618,000	\$ 2,840,000	24 months
				\$51,000,000 CM	\$ 320,000	\$64,150,000	\$38,618,000	\$ 2,840,000	24 months

⁽¹⁾ NFA = Net Floor Area

General Cost Assumptions

1. Program Area based upon MSBA Space Summary
2. Gross Square Footage based upon NFA x 1.5
3. Construction Starts Sept. 2020
4. New D-B-B @ \$435/SF + 8% escalation = \$470/SF
Reno D-B-B @ \$280/SF + 8% escalation = \$302/SF
5. New CM ECC @ \$472/SF + 8% escalation = \$510/SF
Reno CM ECC @ \$306/SF + 8% escalation = \$330/SF
6. Project Cost = 25% of ECC
7. City Share @ 40% reimbursement from MSBA or 60% share of project excluding fields

AES Reno/Add Site Specific Premiums escalated to 2020:

\$ 378,000 Abatement of existing building @ \$7/SF
 \$ 312,000 Demolition of existng building @ \$8/SF
 \$ 50,000 Dewatering/waterproofing
 \$ 889,600 2% Urban-like construction site premium
 \$ 1,383,288 3% escalation for extended construction duration
 \$ 3,012,888 (Not reimbursable by MSBA)

Other Site Considerations est. costs escalated to 2020:

\$ 1,500,000 Additional off-site parking lot (Not MSBA Reim.)

Average annual homeowner increase*

20 year bond ~ \$470 D-B-B / \$500 CM
 30 year bond ~ \$410 D-B-B / \$440 CM

AES New Site Specific Premiums escalated to 2020:

\$ 378,000 Abatement of existing building @ \$7/SF
 \$ 432,000 Demolition of existng building @ \$8/SF
 \$ 50,000 Dewatering/waterproofing
 \$ 940,000 2% Urban-like construction site premium
 \$ 1,464,000 3% escalation for extended construction duration
 \$ 3,264,000 (Not reimbursable by MSBA)

Other Site Considerations est. costs escalated to 2020:

\$ 1,500,000 Additional off-site parking lot (Not MSBA Reim.)

Average annual homeowner increase*

20 year bond ~ \$495 D-B-B / \$535 CM
 30 year bond ~ \$430 D-B-B / \$465 CM

CES Site Specific Premiums escalated to 2020:

\$ 320,000 Relocate baseball fields
 (Not reimbursable by MSBA)
Other Site Considerations est. costs esc. to 2020:
 \$ 2,030,000 Woodsom fields & Concession)
 \$ 810,000 AES Abatement & Demolition
 \$ 2,840,000 (Not MSBA Reimbursable)

Average annual homeowner increase*

20 year bond ~ \$450 D-B-B / \$490 CM
 30 year bond ~ \$395 D-B-B / \$425 CM

*Estimated Tax Impact: 20 year term is based on a 4.5% interest rate projection. The total principal plus interest will be \$57,658,875.00.
 The 30 year term is based on a projection of 5.25%. The total principal plus interest will be \$75,276,900.00.

MSBA Process & Timeline

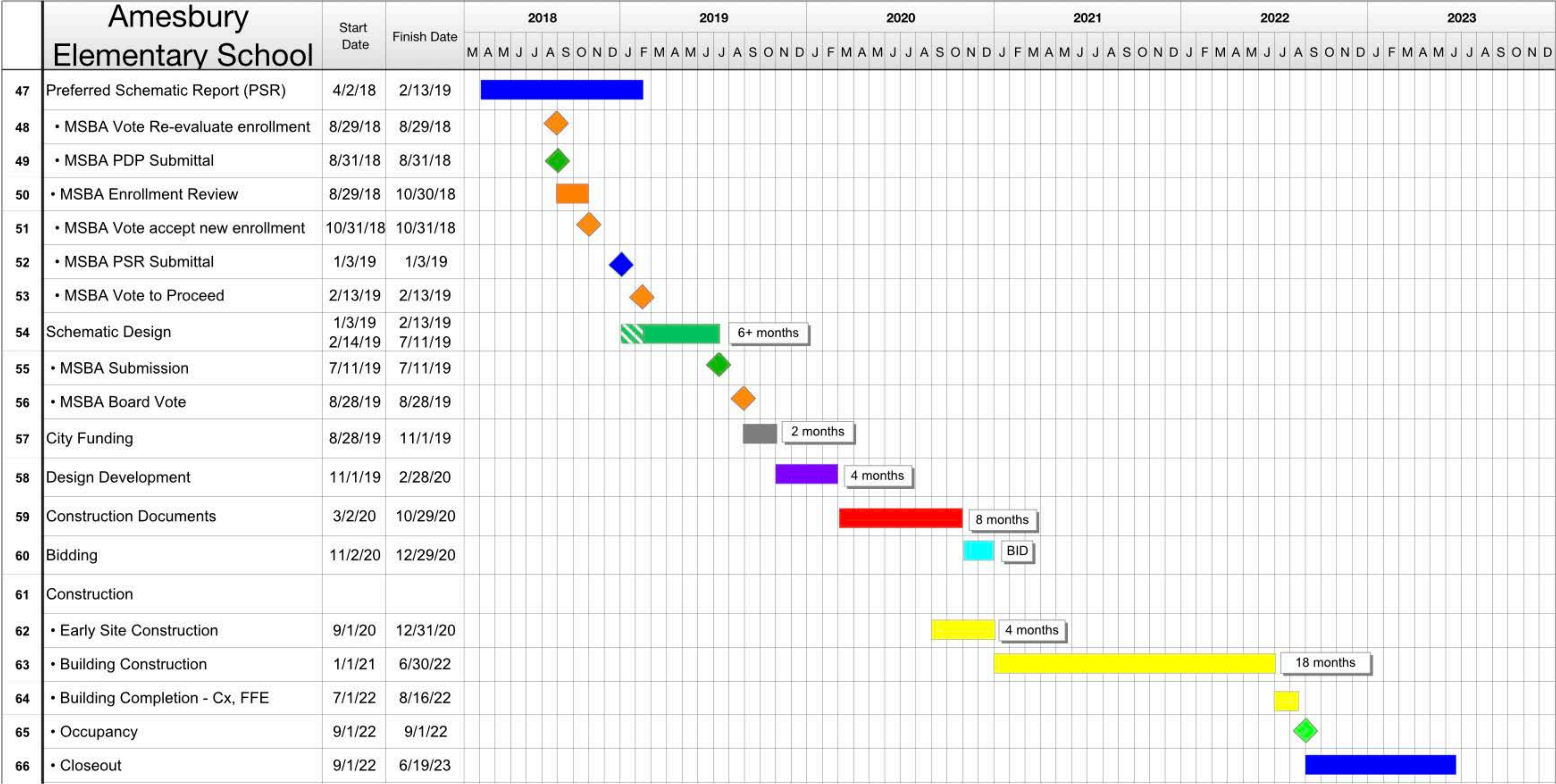
- Preferred Schematic Report (PSR) due January 3, 2019
- MSBA Board Meeting to approve PSR February 13, 2019
- Schematic Design (SD) submittal to MSBA July 10, 2019
- MSBA Board Meeting to approve SD August 28, 2019



Massachusetts School Building Authority

Funding Affordable, Sustainable and Efficient Schools for Local Communities

Project Schedule



Next Steps

- | | |
|---|--------------------|
| • MSBA PSR approval | February 13, 2019 |
| • ConsComm conceptual phase review | Winter/Spring 2019 |
| • Planning Dept / ZBA concept plan review | Winter/Spring 2019 |
| • Planning Dept design review | Summer 2019 |
| • Zoning Board of Appeals | Summer 2019 |
| • MSBA SD approval | August 28, 2019 |
| • Local funding | November 1, 2019 |
| • Building Permit | Spring 2020 |